NOKIA

Innovative Projects
Summer 2017

contact: innovative.projects@nokia.com

List of projects

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#1	Tools portfolio
Project goals	Web application with tools presentation as tiles with some description.
Scope definition	Application should allow management of several tools and present them in a nice layout. Proposal functionalities: 1. Each tool represented as a tile - image, title, short description and url 2. Tool details on modal (long description, repository etc.) 3. Filtering - simple filters based on tags 4. Add to favourites 5. Notifications 6. Permissions - different views and details for different users 7. Admin panel - content management only for admins Final scope of project will be set with the team.
Requirements	Nice to have basic JS knowledge
Author	Ewa Kaczmarek
Planned duration	1 semester
Team size	4-6

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#2	Workshop environment
Project goals	Web application for creating programming workshops.
Scope definition	Main goal of application is to support programming workshops. Application should allow workshop creation dedicated for any programming language. Proposal functionalities: 1. Working examples - code with explanations and working results. 2. Syntax highlighting. 3. Splitting material into chapters - in each chapter we extend code from the previous one (it is like building application in steps). 4. Showing tasks for participants with timer at the end of each timer. Final scope of project will be set with the team.
Requirements	Web technologies knowledge
Author	Ewa Kaczmarek
Planned duration	1 semester
Team size	3-4

#3	Retro Tool
Project goals	Web application for supporting Retrospective Meetings.

Scope definition	Retrospective Meeting is part of Scrum methodology. During this meeting, team reflects the past Sprint, discuss on improvements, identifies good practices. The result of the Retrospective is set of Working Agreements (set of rules/disciplines/processes the team agrees to follow) and Action Items (small task assigned to team member to be done before next Retrospective Meetings).
	
	Application should allow management of several projects and create new posts in each of them and also show board with Working Agreements and Action Items.
	
	Proposal functionalities:
	
	1. General view (only for admins):
	  (a) Projects management - adding/editing/removing projects, assigning members to them
	  (b) Users management - adding/editing/removing users
	2. Single project view (available only for assigned users):
	  (a) Main dashboard with list of open Action Items and all Working Agreements set by the team
	  (b) Board with availability of posts creation.
	  (c) Post can have different category (new idea, code improvement etc.).
	  (d) Adding comments to posts.

Requirements	Nice to have basic JS knowledge
Author	Ewa Kaczmarek
Planned duration	1 semester
Team size	4-5

#4	NERD - NEwcomer Request Delivery
Project goals	Develop a tool that will speed up / automate newcomer enablement process by adding new user to projects, sending mail requests or manuals, and creating Jira tickets via REST API.

Scope definition	Manager wants to give access rights to tools required to work with project for every member that joins development team (Jenkins, application server, Jira, confluence, GIT repository, etc). There also must be mail notifications to development team and product owner about new team member. Newcomer should get mail with set of instructions/manuals/requrements.
	
	There are two steps:
	• Project configuration in NERD Tool:
	  – Add email sending function:
	    ∗ Configure target email and message/content. Mail message template can be edited with BBCode or Markdown.
	• Add jira ticket creation function:
	  – Configure target Jira address/project id and ticket description
	  – Send access rights request for given user:
	    ∗ Choose previously configured project and attach user to it by his email address

Requirements	Minimal experience or eager to learn: • Language for backend logic (i.e. Java + Play Framework) • Language for frontend logic (i.e. JavaScript + Angular2 or Java + Vaadin) • Data Base knowledge (i.e. Postgres + Ebean ORM or SQL) • REST web services
Author	Blazej Krystek
Planned duration	1 semester
Team size	3-5

#5	Cross application notification system
Project goals	Implement micro service able to easy management of users notifications. Service should aggregate all notifications from applications and/or users. Provide also web component for simple embedding and displaying notifications inside external applications.
Scope definition	1. Web component should allow: • easy embedding inside external applications; • displaying aggregated notifications; • dismissing single/all notification; • showing details and links; 2. Microservice should: • be secured source of data for web component; • provide API for automatic notifications from applications; • provide way to create manual notifications; • allow scope notification message by type (info/warning/error), applications and user/user groups; • create easy way to notify end user about not read messages;
Requirements	Web technologies knowledge
Author	Dominik Markiewicz
Planned duration	1 semester
Team size	2-6

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#6	Personalized applications dashboard
Project goals	Implement easy-to-use, personalized web component with applications dashboard, allowing for easily access internal Nokia applications. Web component should be embedded by internal applications in navbar and allow for fast open/switch application. There should be also centralized database with applications with some minimal interface allowing applications register.

Scope definition	1. Web component should allow:
	    • easy embedding inside external applications;
	    • displaying tiles with most-used and/or most-important applications;
	    • displaying personalized applications;
	
	2. Microservice should:
	    • be secured source of data for web component;
	    • provide new applications register mechanism with basic informations like icon, description, link etc.

Requirements	-
Author	Dominik Markiewicz
Planned duration	1 semester
Team size	1-3

#7	Website branding validator
Project goals	Sometimes the branding (i.e. name of company/product, logo or logotype) is changing. It would be useful to have a website crawler to walk the website and validate that all proper changes has been introduced.
Scope definition	A program in any form that will accept inputs as i.e. renames, brand colors etc. and will crawl given website looking for errors in logotype or branding.
Requirements	-
Author	Mateusz Wronski
Planned duration	1 semester
Team size	1-2

#8	Mobile phone DevOps alarms delivery
Project goals	Develop a tool that will notify person via android app that some system or web application has crashed and/or behaves weirdly.

Scope definition	Application that has following components
	• Backend app:
	  – monitors web services and generates and closes alarms when web applications are not responsive or has failing healthchecks
	  – serves the mobile phone app
	• Android/mobile phone application:
	  – Allows for subscription to alarms from particular services
	  – Receives and displays alarms and alarm cancellations
	  – Allows the technical stuff to "claim" the alarm ("I'm working on it" notification)
	
	Extra: application can be notified about events/alarms from Sensu system.
	Extra: backend can be notified about application events ("App x is rebooting for upgrade. Est downtime 30 minutes")

Requirements	Any language, minimal frontend dev experience (frontend frameworks) or eager to learn Angular 2
Author	Mateusz Wronski
Planned duration	1 semester
Team size	3-5

#9	SSL/TLS support in Facebook Presto big data drivers
Project goals	Extend Facebook Presto MongoDB and Cassandra drivers with SSL/TLS connectivity.
Scope definition	Presto is a distributed-query engine from Facebook that allows cross-querying different databases. Connection to particular database implementation is handled by Connectors. Presto connectors lack support for SSL connections to databases, that would allow for connections between Presto and databases via non-separated, even public network. At the moment such configuration requires setup of many SSH tunnels.
Requirements	Java, basic knowledge of PKI/SSL mechanisms
Author	Mateusz Wronski, Michael Dec
Planned duration	1 semester
Team size	1-2